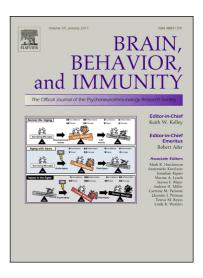
### Accepted Manuscript

Differential immune responses and microbiota profiles in children with autism spectrum disorders and co-morbid gastrointestinal symptoms

Destanie R. Rose, Houa Yang, Gloria Serena, Craig Sturgeon, Bing Ma, Milo Careaga, Heather K. Hughes, Kathy Angkustsiri, Melissa Rose, Irva Hertz-Picciotto, Judy Van de Water, Robin L. Hansen, Jacques Ravel, Alessio Fasano, Paul Ashwood

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## ACCEPTED MANUSCRIPT

Title: Differential immune responses and microbiota profiles in children with autism spectrum disorders and co-morbid gastrointestinal symptoms.

Short Title: Immune and microbiota findings in ASD with GI symptoms

Authors: Destanie R. Rose<sup>1,2</sup>, Houa Yang<sup>1,2</sup>, Gloria Serena<sup>3,4</sup>, Craig Sturgeon<sup>3,4</sup>, Bing Ma<sup>5</sup>, Milo Careaga<sup>1,2</sup>, Heather K. Hughes<sup>1,2</sup>, Kathy Angkustsiri<sup>2,6,7</sup>, Melissa Rose<sup>7,8</sup>, Irva Hertz-Picciotto<sup>2,7,8</sup>, Judy Van de Water<sup>2,7,9</sup>, Robin L Hansen<sup>2,6,7</sup>, Jacques Ravel<sup>5</sup>, Alessio Fasano<sup>3</sup>, Paul Ashwood<sup>1,2,7</sup>

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**Key words:** ASD, Autism, Cytokines, Gastrointestinal, Immune, Mucosal Immunity, Microbiota, zonulin

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